

SEQUENCE LISTING

<110> ZENECA Limited
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Francois, Isabelle EJA
Evans, Ian J
De Bolle, Miguel FC
Ray, John A

<120> Genetic Method

<130> PPD 50348/WO

<140>

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<150> GB 9818001.1

<151> 1998-08-18

<150> GB 9826753.7

<151> 1998-12-04

<160> 81

<170> PatentIn Ver. 2.1

<210> 1

<211> 446

<212> DNA

<213> Dahlia merckii

<220>

<221> CDS

<222> (1)..(64)

<220>

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<222> (157)..(446)

0973037920E9260

<400> 1

atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt ttc 48
 Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

gtg ctc gcc atc tca g gttatcaaat ctttagttca tttattgaat atgatagtat 104
 Val Leu Ala Ile Ser
 20

ttatattctt ttatgggttt atgtgttctg acaagttgca aatattgagt ag at atc 161
 Asp Ile

gca tcc gtt agt gga gaa cta tgc gag aaa gct agc aag aca tgg tgc 209
 Ala Ser Val Ser Gly Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser
 25 30 35

gga aac tgt ggc aat acg gga cat tgt gac aac caa tgt aaa tca tgg 257
 Gly Asn Cys Gly Asn Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp
 40 45 50 55

gag ggt gcg gcc cat gga gcg tgt cat gtg cgt aac ggg aaa cac atg 305
 Glu Gly Ala Ala His Gly Ala Cys His Val Arg Asn Gly Lys His Met
 60 65 70

tgt ttc tgt tac ttc aat tgt aaa aaa gcc gaa aag ctt gct caa gac 353
 Cys Phe Cys Tyr Phe Asn Cys Lys Lys Ala Glu Lys Leu Ala Gln Asp
 75 80 85

aaa ctt aaa gcc gaa caa ctc gct caa gac aaa ctt aat gcc caa aag 401
 Lys Leu Lys Ala Glu Gln Leu Ala Gln Asp Lys Leu Asn Ala Gln Lys
 90 95 100

ctt gac cgt gat gcc aag aaa gtg gtt cca aac gtt gaa cat ccg 446
 Leu Asp Arg Asp Ala Lys Lys Val Val Pro Asn Val Glu His Pro
 105 110 115

09753075-051401

<210> 2

<211> 118

<212> PRT

<213> Dahlia merckii

<400> 2

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys
 65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala Gln
 85 90 95

Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val Val
 100 105 110

Pro Asn Val Glu His Pro
 115

<210> 3

<211> 16

<212> PRT

<213> Artificial Sequence

T04T50-9209260

<220>

<223> Description of Artificial Sequence: Linker
propeptide

<400> 3

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly
1 5 10 15

<210> 4

<211> 20

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
propeptide

<400> 4

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu
1 5 10 15

Ile Gly Lys Arg
20

<210> 5

<211> 40

<212> PRT

<213> Dahlia merckii

<400> 5

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu
1 5 10 15

Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys
20 25 30

T04T50-320E9260

Val Val Pro Asn Val Glu His Pro
 35 40

<210> 6
 <211> 44
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Linker
 propeptide

<400> 6
 Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu
 1 5 10 15
 Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys
 20 25 30

Val Val Pro Asn Val Glu His Pro Ile Gly Lys Arg
 35 40

<210> 7
 <211> 20
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Linker
 propeptide

<400> 7
 Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr
 1 5 10 15

09763076-051401

Ile Gly Lys Arg
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<210> 8
<211> 31
<212> PRT
<213> *Amaranthus caudatus*

<400> 8
Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr
1 5 10 15
Ala Lys Asn Pro Thr Asp Ala Lys Leu Ala Gly Ala Gly Ser Pro
20 25 30

<210> 9
<211> 522
<212> DNA
<213> Artificial Sequence

<220>
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sequence

<220>
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<222> (76)..(513)

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atttacaatt acacc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt 111
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val
1 5 10

09763076.054401

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159
 Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly
 15 20 25

gaa cta tgc gag aaa gct agc aag acg tgg tgc ggc aac tgt ggc aac 207
 Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn
 30 35 40

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255
 Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His
 45 50 55 60

gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303
 Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe
 65 70 75

aat tgt tcc aac gct gct gac gag gtg gct acc cca gag gac gtg gag 351
 Asn Cys Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu
 80 85 90

cca gga cag aag ttg tgc caa agg cca agt ggg aca tgg tca gga gtc 399
 Pro Gly Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val
 95 100 105

tgt gga aac aat aac gca tgc aag aat cag tgc att aga ctt gag aaa 447
 Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys
 110 115 120

gca cga cat gga tct tgc aac tat gtc ttc cca gct cac aag tgt atc 495
 Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile
 125 130 135 140

tgc tac ttt cct tgt taa taggagctc 522
 Cys Tyr Phe Pro Cys
 145

09753076-051401

<210> 10
 <211> 145
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: Synthetic
 sequence

<400> 10

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn
 65 70 75 80

Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly Gln Lys
 85 90 95

Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn Asn
 100 105 110

Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly
 115 120 125

Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro
 130 135 140

Cys
 145

097E306-05404
 T04T50-920E9260

<210> 11

<211> 534

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<220>

<221> CDS

<222> (76)..(525)

<400> 11

ctcgagtatt tttaacaaca ttaccaacaa caacaaacaa caaacaacat tacaattact 60

atttacaatt acacc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt 111

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val

1

5

10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159

Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly

15

20

25

gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207

Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn

30

35

40

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255

Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His

45

50

55

60

gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303

Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe

65

70

75

09763076-054404

aat tgt aaa aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa 351
 Asn Cys Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu
 80 85 90

caa ctc atc gga aag agg cag aag ttg tgc caa agg cca agt ggg aca 399
 Gln Leu Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr
 95 100 105

tgg tca gga gtc tgt gga aac aat aac gca tgc aag aat cag tgc att 447
 Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile
 110 115 120

aga ctt gag aaa gca cga cat gga tct tgc aac tat gtc ttc cca gct 495
 Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala
 125 130 135 140

cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 534
 His Lys Cys Ile Cys Tyr Phe Pro Cys
 145

<210> 12

<211> 149

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 12

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

09763076-051401

11

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys
 65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ile Gly
 85 90 95

Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val
 100 105 110

Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys
 115 120 125

Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile
 130 135 140

Cys Tyr Phe Pro Cys
 145

<210> 13

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Oligonucleotide

<220>

<221> misc_feature

<222> (6, 9, 12, 15, 21)

<223> n is any residue

<400> 13

tgyganaang cnwsnaarac ntgg

<210> 14
 <211> 8
 <212> PRT
 <213> Dahlia merckii

<400> 14
 Cys Glu Lys Ala Ser Lys Thr Trp
 1 5

<210> 15
 <211> 606
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 sequence

<220>
 <221> CDS
 <222> (76)..(597)

<400> 15
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 Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val
 1 5 10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159
 Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly
 15 20 25

gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207
 Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn
 30 35 40

09763076-054404
 T04T50-920E9260

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255
 Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His
 45 50 55 60

gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303
 Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe
 65 70 75

aat tgt aaa aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa 351
 Asn Cys Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu
 80 85 90

caa ctc gct caa gac aaa ctt aat gcc caa aag ctt gac cgt gat gcc 399
 Gln Leu Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala
 95 100 105

aag aaa gtg gtt cca aac gtt gaa cat ccg atc gga aag agg cag aag 447
 Lys Lys Val Val Pro Asn Val Glu His Pro Ile Gly Lys Arg Gln Lys
 110 115 120

ttg tgc caa agg cca agt ggg aca tgg tca gga gtc tgt gga aac aat 495
 Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn Asn
 125 130 135 140

aac gca tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga 543
 Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly
 145 150 155

tct tgc aac tat gtc ttc cca gct cac aag tgt atc tgc tac ttt cct 591
 Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro
 160 165 170

tgt taa taggagctc 606
 Cys

09763076-051401

<210> 16

<211> 173

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 16

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys
65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala Gln
85 90 95

Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val Val
100 105 110

Pro Asn Val Glu His Pro Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg
115 120 125

Pro Ser Gly Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys
130 135 140

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr
145 150 155 160

09763076-051401

Val Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 165 170

<210> 17

<211> 534

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 sequence

<220>

<221> CDS

<222> (76)..(525)

<400> 17

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atttacaatt acacc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt 111

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val

1

5

10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159

Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly

15

20

25

gaa cta tgc gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac 207

Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn

30

35

40

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255

Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His

45

50

55

60

09763076-051401

16

gga gcg tgt cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc 303
 Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe
 65 70 75

aat tgt gcc agt act act gtg gat cac caa gct gat gtt gct gcc acc 351
 Asn Cys Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr
 80 85 90

aaa act atc gga aag agg cag aag ttg tgc caa agg cca agt ggg aca 399
 Lys Thr Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr
 95 100 105

tgg tca gga gtc tgt gga aac aat aac gca tgc aag aat cag tgc att 447
 Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile
 110 115 120

aga ctt gag aaa gca cga cat gga tct tgc aac tat gtc ttc cca gct 495
 Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala
 125 130 135 140

cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 534
 His Lys Cys Ile Cys Tyr Phe Pro Cys
 145

<210> 18

<211> 149

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 18

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

09763076-051401
 104750-92059250

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Ser
 65 70 75 80

Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr Ile Gly
 85 90 95

Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Gly Thr Trp Ser Gly Val
 100 105 110

Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys
 115 120 125

Ala Arg His Gly Ser Cys Asn Tyr Val Phe Pro Ala His Lys Cys Ile
 130 135 140

Cys Tyr Phe Pro Cys
 145

<210> 19

<211> 316

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 sequence

<220>

<221> CDS

<222> (76)..(312)

09763076-051401

<400> 19

ctcgagtatt tttaacaaca ttaccaacaa caacaaacaa caaacaacat tacaattact 60

atttacaatt acacc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt 111

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val

1

5

10

ctg atc ctt ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga 159

Leu Ile Leu Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly

15

20

25

gaa cta tgc gag aaa gct agc aag acg tgg tcg gcc aac tgt ggc aac 207

Glu Leu Cys Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn

30

35

40

acg gga cat tgt gac aac caa tgt aaa tca tgg gag ggt gcg gcc cat 255

Thr Gly His Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His

45

50

55

60

gga gcg tgt cat gtg cgt aat ggg aaa cac atg tgt ttc tgt tac ttc 303

Gly Ala Cys His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe

65

70

75

aat tgt tga gctc

316

Asn Cys

<210> 20

<211> 78

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 20

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe

1

5

10

15

09763076-051404

19

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys
65 70 75

<210> 21

<211> 14

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
peptide

<400> 21

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu
1 5 10

<210> 22

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
peptide

T04T50-92029260

20

<400> 22

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp

1

5

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<210> 23

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
peptide

<400> 23

Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu

1

5

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<210> 24

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
peptide

<400> 24

Ala Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu

1

5

10

15

Leu Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp

20

25

T04T50-92059250

21

<210> 25

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
propeptide

<400> 25

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu
 1 5 10 15

Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg
 20 25

<210> 26

<211> 52

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
propeptide

<400> 26

Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu
 1 5 10 15

Ala Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys
 20 25 30

Val Val Pro Asn Val Glu His Pro Ile Gly Lys Arg Ile Gly Lys Arg
 35 40 45

Ile Gly Lys Arg
 50

T04T50-920E9260

<210> 27

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
propeptide

<400> 27

Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr
1 5 10 15

Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg
20 25

<210> 28

<211> 29

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker
propeptide

<400> 28

Ser Asn Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu
1 5 10 15

Leu Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro
20 25

09763076-054404
T04T50-920E9260

<210> 29
 <211> 15
 <212> PRT
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Linker peptide

<400> 29

Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly
 1 5 10 15

<210> 30
 <211> 446
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 sequence

<220>

<221> CDS

<222> (3)..(437)

<400> 30

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47
 Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu
 1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95
 Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys
 20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143
 Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His
 35 40 45

09763076-051401

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191
 Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys
 50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt aac 239
 His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Asn
 65 70 75

gcg gcc gac gag gtg gct acc cca gag gac gtg gaa cct ggt cag aag 287
 Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly Gln Lys
 80 85 90 95

ttg tgc caa agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat 335
 Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn
 100 105 110

aac gca tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga 383
 Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly
 115 120 125

tct tgc aac tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct 431
 Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro
 130 135 140

tgt taa taggagctc 446
 Cys

<210> 31

<211> 144

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 31

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

09763076-054401

25

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Asn Ala
65 70 75 80

Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Pro Gly Gln Lys Leu
85 90 95

Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn
100 105 110

Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser
115 120 125

Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
130 135 140

<210> 32

<211> 443

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<220>

<221> CDS

<222> (3)..(434)

T04T50" 920E9260

<400> 32

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu

1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95

Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys

20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143

Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His

35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191

Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys

50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239

His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser

65 70 75

aac gcg gcc gac gag gtg gct acc cca gag gac gtg gaa cag aag ttg 287

Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Gln Lys Leu

80 85 90 95

tgc caa agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac 335

Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn

100 105 110

gca tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct 383

Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser

115 120 125

tgc aac tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt 431

Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys

130 135 140

taa taggagctc

443

09763076-054401

<210> 33

<211> 143

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 33

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn
65 70 75 80

Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val Glu Gln Lys Leu Cys
85 90 95

Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala
100 105 110

Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys
115 120 125

Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
130 135 140

09763076-051401

<210> 34

<211> 437

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<220>

<221> CDS

<222> (3)..(428)

<400> 34

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu

1

5

10

15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95

Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys

20

25

30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143

Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His

35

40

45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191

Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys

50

55

60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239

His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser

65

70

75

aac gcg gcc gac gag gtg gct acc cca gag gac cag aag ttg tgc caa 287

Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Gln Lys Leu Cys Gln

80

85

90

95

09763076-051401

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 335
 Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys
 100 105 110

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 383
 Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn
 115 120 125

tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 428
 Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 130 135 140

taggagctc 437

<210> 35

<211> 141

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 35

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn
 65 70 75 80

09763075-05404

30

Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Gln Lys Leu Cys Gln Arg
 85 90 95

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys
 100 105 110

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr
 115 120 125

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 130 135 140

<210> 36

<211> 434

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 sequence

<220>

<221> CDS

<222> (3)..(425)

<400> 36

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47
 Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu
 1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95
 Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys
 20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143
 Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His
 35 40 45

09763076-051401

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191
 Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys
 50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239
 His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser
 65 70 75

aac gcg gcc gac gag gtg gct acc cca gag cag aag ttg tgc caa agg 287
 Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Gln Lys Leu Cys Gln Arg
 80 85 90 95

cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc aag 335
 Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys
 100 105 110

aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac tat 383
 Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr
 115 120 125

cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 434
 Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 130 135 140

<210> 37

<211> 140

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 37

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

0976306-054404

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn
 65 70 75 80

Ala Ala Asp Glu Val Ala Thr Pro Glu Gln Lys Leu Cys Gln Arg Pro
 85 90 95

Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn
 100 105 110

Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Arg
 115 120 125

Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 130 135 140

<210> 38

<211> 485

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 sequence

<220>

<221> CDS

<222> (3)..(476)

<400> 38

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu

1

5

10

15

09763076-051401

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys

20

25

30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His

35

40

45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys

50

55

60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt gct 239
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala

65

70

75

aac gct gag gaa gct gct gct gct att cct gaa gct tct gaa gaa ctt 287
Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu

80

85

90

95

gct caa gaa gaa gct cct gtg tac agt gaa gat cag aag ttg tgc caa 335
Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln

100

105

110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383
Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys

115

120

125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431
Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn

130

135

140

tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 476
Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys

145

150

155

taggagctc

485

0976306 05104
T04T50 940E9260

<210> 39

<211> 157

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 39

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe

1

5

10

15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu

20

25

30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys

35

40

45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His

50

55

60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Asn

65

70

75

80

Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala

85

90

95

Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln Arg

100

105

110

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys

115

120

125

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr

130

135

140

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys

145

150

155

T04T50-054401

<210> 40

<211> 1093

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<220>

<221> CDS

<222> (3)..(1085)

<400> 40

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu

1

5

10

15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95

Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys

20

25

30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143

Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His

35

40

45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191

Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys

50

55

60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aac tgc gct 239

His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala

65

70

75

aac gct gag gaa gct gct gct gct att cct gaa gct tct gaa gaa ctt 287

Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu

80

85

90

95

09763036-05401

gct caa gaa gaa gct cct gtg tac agt gaa gat cag aag ttg tgc caa 335
 Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln
 100 105 110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383
 Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys
 115 120 125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431
 Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn
 130 135 140

tat cgt ttc cca gct cac aag tgt atc tgc tac ttc cct tgt gcg aat 479
 Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys Ala Asn
 145 150 155

gct gaa gaa gct gct gct gct att cct gaa gct tct gaa gaa ctt gct 527
 Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala
 160 165 170 175

caa gaa gaa gca ccg gtt tac tct gaa gat gac gga gtg aag ctc tgc 575
 Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Asp Gly Val Lys Leu Cys
 180 185 190

gac gtg cca tcc gga acc tgg tcc gga cac tgc ggt tcc tcc agc aag 623
 Asp Val Pro Ser Gly Thr Trp Ser Gly His Cys Gly Ser Ser Ser Lys
 195 200 205

tgc agc caa caa tgc aag gac agg gag cac ttc gct tac gga gga gct 671
 Cys Ser Gln Gln Cys Lys Asp Arg Glu His Phe Ala Tyr Gly Gly Ala
 210 215 220

tgc cac tac caa ttc cca tcc gtg aag tgc ttc tgc aag agg caa tgc 719
 Cys His Tyr Gln Phe Pro Ser Val Lys Cys Phe Cys Lys Arg Gln Cys
 225 230 235

0963076-054404

gct aac gct gag gaa gct gct gct gct att cct gaa gct tct gaa gaa 767
 Ala Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu
 240 245 250 255

ctt gct caa gaa gaa gct cct gtg tac agt gaa gat cag aac ata tgc 815
 Leu Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Asn Ile Cys
 260 265 270

cca agg gtt aat cga att gtg aca ccc tgt gtg gcc tac gga ctc gga 863
 Pro Arg Val Asn Arg Ile Val Thr Pro Cys Val Ala Tyr Gly Leu Gly
 275 280 285

agg gca cca atc gcc cca tgc tgc aga gcc ctg aac gat cta cgg ttt 911
 Arg Ala Pro Ile Ala Pro Cys Cys Arg Ala Leu Asn Asp Leu Arg Phe
 290 295 300

gtg aat act aga aac cta cga cgt gct gca tgc cgc tgc ctc gta ggg 959
 Val Asn Thr Arg Asn Leu Arg Arg Ala Ala Cys Arg Cys Leu Val Gly
 305 310 315

gta gtg aac cgg aac ccc ggt ctg aga cga aac cct aga ttt cag aac 1007
 Val Val Asn Arg Asn Pro Gly Leu Arg Arg Asn Pro Arg Phe Gln Asn
 320 325 330 335

att cct cgt gat tgt cgc aac acc ttt gtt cgt ccc ttc tgg tgg cgt 1055
 Ile Pro Arg Asp Cys Arg Asn Thr Phe Val Arg Pro Phe Trp Trp Arg
 340 345 350

cca aga att caa tgc ggc agg att aac taa tagagctc 1093
 Pro Arg Ile Gln Cys Gly Arg Ile Asn
 355 360

<210> 41
 <211> 360
 <212> PRT
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: Synthetic
 sequence

09763076-051401
 T04T50-92029260

<400> 41

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Asn
 65 70 75 80

Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala
 85 90 95

Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Lys Leu Cys Gln Arg
 100 105 110

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys
 115 120 125

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr
 130 135 140

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys Ala Asn Ala
 145 150 155 160

Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu Ala Gln
 165 170 175

Glu Glu Ala Pro Val Tyr Ser Glu Asp Asp Gly Val Lys Leu Cys Asp
 180 185 190

09763076.051401

Val Pro Ser Gly Thr Trp Ser Gly His Cys Gly Ser Ser Ser Lys Cys
195 200 205

Ser Gln Gln Cys Lys Asp Arg Glu His Phe Ala Tyr Gly Gly Ala Cys
210 215 220

His Tyr Gln Phe Pro Ser Val Lys Cys Phe Cys Lys Arg Gln Cys Ala
225 230 235 240

Asn Ala Glu Glu Ala Ala Ala Ala Ile Pro Glu Ala Ser Glu Glu Leu
245 250 255

Ala Gln Glu Glu Ala Pro Val Tyr Ser Glu Asp Gln Asn Ile Cys Pro
260 265 270

Arg Val Asn Arg Ile Val Thr Pro Cys Val Ala Tyr Gly Leu Gly Arg
275 280 285

Ala Pro Ile Ala Pro Cys Cys Arg Ala Leu Asn Asp Leu Arg Phe Val
290 295 300

Asn Thr Arg Asn Leu Arg Arg Ala Ala Cys Arg Cys Leu Val Gly Val
305 310 315 320

Val Asn Arg Asn Pro Gly Leu Arg Arg Asn Pro Arg Phe Gln Asn Ile
325 330 335

Pro Arg Asp Cys Arg Asn Thr Phe Val Arg Pro Phe Trp Trp Arg Pro
340 345 350

Arg Ile Gln Cys Gly Arg Ile Asn
355 360

0976306-051401

<210> 42

<211> 485

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<220>

<221> CDS

<222> (3)..(476)

<400> 42

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt	47
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu	
1 5 10 15	

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc	95
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys	
20 25 30	

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat	143
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His	
35 40 45	

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt	191
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys	
50 55 60	

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt aaa	239
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys	
65 70 75	

aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa caa ctc atc	287
Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ile	
80 85 90 95	

09763076-051401

gga aag agg atc gga aag agg atc gga aag agg cag aag ttg tgc caa 335
 Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln
 100 105 110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383
 Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys
 115 120 125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431
 Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn
 130 135 140

tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 476
 Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 145 150 155

taggagctc 485

<210> 43

<211> 157

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 43

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

0963076-051404

42

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys
 65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ile Gly
 85 90 95

Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg
 100 105 110

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys
 115 120 125

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr
 130 135 140

Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 145 150 155

<210> 44

<211> 557

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 sequence

<220>

<221> CDS

<222> (3)..(548)

<400> 44

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47
 Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu
 1 5 10 15

09763076-051401

43

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95
 Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys
 20 25 30

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat 143
 Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His
 35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191
 Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys
 50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt aaa 239
 His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys
 65 70 75

aaa gcc gaa aag ctt gct caa gac aaa ctt aaa gcc gaa caa ctc gct 287
 Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala
 80 85 90 95

caa gac aaa ctt aat gcc caa aag ctt gac cgt gat gcc aag aaa gtg 335
 Gln Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val
 100 105 110

gtt cca aac gtt gaa cat ccg atc gga aag agg atc gga aag agg atc 383
 Val Pro Asn Val Glu His Pro Ile Gly Lys Arg Ile Gly Lys Arg Ile
 115 120 125

gga aag agg cag aag ttg tgc caa agg cca agt cgt aca tgg tca gga 431
 Gly Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly
 130 135 140

gtc tgt gga aac aat aac gca tgc aag aat cag tgc att aga ctt gag 479
 Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu
 145 150 155

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aaa gca cga cat gga tct tgc aac tat cgt ttc cca gct cac aag tgt 527
 Lys Ala Arg His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys
 160 165 170 175

atc tgc tac ttt cct tgt taa taggagctc 557
 Ile Cys Tyr Phe Pro Cys
 180

<210> 45

<211> 181

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 45

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Lys Lys
 65 70 75 80

Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala Glu Gln Leu Ala Gln
 85 90 95

Asp Lys Leu Asn Ala Gln Lys Leu Asp Arg Asp Ala Lys Lys Val Val
 100 105 110

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45

Pro Asn Val Glu His Pro Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly
 115 120 125

Lys Arg Gln Lys Leu Cys Gln Arg Pro Ser Arg Thr Trp Ser Gly Val
 130 135 140

Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys
 145 150 155 160

Ala Arg His Gly Ser Cys Asn Tyr Arg Phe Pro Ala His Lys Cys Ile
 165 170 175

Cys Tyr Phe Pro Cys
 180

<210> 46

<211> 485

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 sequence

<220>

<221> CDS

<222> (3)..(476)

<400> 46

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47
 Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu
 1 5 10 15

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95
 Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys
 20 25 30

09763076-054404

gag aaa gct agc aag acg tgg tgc ggc aac tgt ggc aac acg gga cat 143
 Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His
 35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191
 Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys
 50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt gcc 239
 His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala
 65 70 75

agt act act gtg gat cac caa gct gat gtt gct gcc acc aaa act atc 287
 Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr Ile
 80 85 90 95

gga aag agg atc gga aag agg atc gga aag agg cag aag ttg tgc caa 335
 Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln
 100 105 110

agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc 383
 Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys
 115 120 125

aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac 431
 Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn
 130 135 140

tat ctg ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 476
 Tyr Leu Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 145 150 155

taggagctc 485

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<210> 47

<211> 157

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 47

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ala Ser
65 70 75 80

Thr Thr Val Asp His Gln Ala Asp Val Ala Ala Thr Lys Thr Ile Gly
85 90 95

Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg Gln Lys Leu Cys Gln Arg
100 105 110

Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys
115 120 125

Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr
130 135 140

Leu Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
145 150 155

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T04T50" 940E9260

<210> 48

<211> 488

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<220>

<221> CDS

<222> (3)..(479)

<400> 48

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt	47
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu	
1 5 10 15	

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc	95
Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys	
20 25 30	

gag aaa gct agc aag acg tgg tcg ggc aac tgt ggc aac acg gga cat	143
Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His	
35 40 45	

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt	191
Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys	
50 55 60	

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc	239
His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser	
65 70 75	

aac gcg gcc gac gag gtg gct acc cag ctg ttg aat ttt gac ctt ctt	287
Asn Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu	
80 85 90 95	

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aag ctt gcg gga gac gtc gag tcc aac cct ggg ccc cag aag ttg tgc 335
 Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Gln Lys Leu Cys
 100 105 110

caa agg cca agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca 383
 Gln Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala
 115 120 125

tgc aag aat cag tgc att aga ctt gag aaa gca cga cat gga tct tgc 431
 Cys Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys
 130 135 140

aac tat cgt ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa 479
 Asn Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 145 150 155

taggagctc 488

<210> 49

<211> 158

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 49

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

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50

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn
65 70 75 80

Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu Lys
85 90 95

Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Gln Lys Leu Cys Gln
100 105 110

Arg Pro Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys
115 120 125

Lys Asn Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn
130 135 140

Tyr Arg Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
145 150 155

<210> 50

<211> 575

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<220>

<221> CDS

<222> (3)..(566)

<400> 50

cc atg gtg aat cgg tcg gtt gcg ttc tcc gcg ttc gtt ctg atc ctt 47
Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu
1 5 10 15

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51

ttc gtg ctc gcc atc tca gat atc gca tcc gtt agt gga gaa cta tgc 95
 Phe Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys
 20 25 30

gag aaa gct agc aag acg tgg tgc ggc aac tgt ggc aac acg gga cat 143
 Glu Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His
 35 40 45

tgt gac aac caa tgt aaa tca tgg gag ggt gcg gct cac gga gcg tgt 191
 Cys Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys
 50 55 60

cat gtg cgt aac ggg aaa cac atg tgt ttc tgt tac ttc aat tgt tcc 239
 His Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser
 65 70 75

aac gcg gcc gac gag gtg gct acc cag ctg ttg aat ttt gac ctt ctt 287
 Asn Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu
 80 85 90 95

aag ctt gcg gga gac gtc gag tcc aac cct ggg ccc atg gct aag ttt 335
 Lys Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Met Ala Lys Phe
 100 105 110

gcg tcc atc atc gca ctt ctt ttt gct gct ctt gtt ctt ttt gct gct 383
 Ala Ser Ile Ile Ala Leu Leu Phe Ala Ala Leu Val Leu Phe Ala Ala
 115 120 125

ttc gaa gca cca aca atg gtg gaa gca cag aag ttg tgc caa agg cca 431
 Phe Glu Ala Pro Thr Met Val Glu Ala Gln Lys Leu Cys Gln Arg Pro
 130 135 140

agt cgt aca tgg tca gga gtc tgt gga aac aat aac gca tgc aag aat 479
 Ser Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn
 145 150 155

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52

cag tgc att aga ctt gag aaa gca cga cat gga tct tgc aac tat cgt 527
 Gln Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Arg
 160 165 170 175

ttc cca gct cac aag tgt atc tgc tac ttt cct tgt taa taggagctc 575
 Phe Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 180 185

<210> 51

<211> 187

<212> PRT

<213> Artificial Sequence

<223> Description of Artificial Sequence: Synthetic
 sequence

<400> 51

Met Val Asn Arg Ser Val Ala Phe Ser Ala Phe Val Leu Ile Leu Phe
 1 5 10 15

Val Leu Ala Ile Ser Asp Ile Ala Ser Val Ser Gly Glu Leu Cys Glu
 20 25 30

Lys Ala Ser Lys Thr Trp Ser Gly Asn Cys Gly Asn Thr Gly His Cys
 35 40 45

Asp Asn Gln Cys Lys Ser Trp Glu Gly Ala Ala His Gly Ala Cys His
 50 55 60

Val Arg Asn Gly Lys His Met Cys Phe Cys Tyr Phe Asn Cys Ser Asn
 65 70 75 80

Ala Ala Asp Glu Val Ala Thr Gln Leu Leu Asn Phe Asp Leu Leu Lys
 85 90 95

Leu Ala Gly Asp Val Glu Ser Asn Pro Gly Pro Met Ala Lys Phe Ala
 100 105 110

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 104750-92059260

53

Ser Ile Ile Ala Leu Leu Phe Ala Ala Leu Val Leu Phe Ala Ala Phe
 115 120 125

Glu Ala Pro Thr Met Val Glu Ala Gln Lys Leu Cys Gln Arg Pro Ser
 130 135 140

Arg Thr Trp Ser Gly Val Cys Gly Asn Asn Asn Ala Cys Lys Asn Gln
 145 150 155 160

Cys Ile Arg Leu Glu Lys Ala Arg His Gly Ser Cys Asn Tyr Arg Phe
 165 170 175

Pro Ala His Lys Cys Ile Cys Tyr Phe Pro Cys
 180 185

<210> 52

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> (9, 12, 15)

<223> n is any residue

<220>

<223> Description of Artificial Sequence:

Oligonucleotide

<400> 52

carttraant ancanaaaarc acat

24

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<210> 53

<211> 8

<212> PRT

<213> Dahlia merckii

<400> 53

Met Cys Phe Cys Tyr Phe Asn Cys

1

5

<210> 54

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
Oligonucleotide

<400> 54

aaacacatgt gtttccatt

20

<210> 55

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
Oligonucleotide

<400> 55

agcgtgtcat gtgcgtaat

19

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<210> 56

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:

Oligonucleotide

<400> 56

taaagaaacc gaccctttca cgg

23

<210> 57

<211> 107

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 57

atgcatccat ggtgaatcgg tcggttgcg tctccgcgtt cggtctgac cttttcgtgc 60
tcgccatctc agatatcgca tccgtagtg gagaactatg cgagaaa 107

<210> 58

<211> 37

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 58

aaaccgaccg agtcacgga tgttcaacgt ttggaac

37

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<210> 59

<211> 34

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 59

agcaagcttt tcgggagctc aacaattgaa gtaa

34

<210> 60

<211> 89

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 60

gcctttggca caacttctgt cctggctcca cgtcctctgg ggtagccacc tcgtcagcag 60
cgttggaaca attgaagtaa cagaaacac 89

<210> 61

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 61

ttagagctcc tattaacaag gaaagtagc

29

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FOI-50-92059260

<210> 62

<211> 55

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 62

gcctttggca caacttctgc ctctttccga tgagttgttc ggctttaagt ttgtc 55

<210> 63

<211> 53

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 63

gcctttggca caacttctgc ctctttccga tcggatgttc aacgtttgga acc 53

<210> 64

<211> 101

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 64

gcctttggca caacttctgc ctctttccga tagttttggt ggcagcaaca tcagcttggt 60
gatccacagt agtactggca caattgaagt aacagaaaca c 101

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<210> 65

<211> 4

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 65

Lys Asp Glu Leu

1

<210> 66

<211> 23

<212> DNA

<213> Artificial Sequence

<220>

<221> misc_feature

<222> (9, 12, 21)

<223> n is any residue

<220>

<223> Description of Artificial Sequence:
Oligonucleotide

<400> 66

atggcsaanm rntcrgttgc ntt

23

<210> 67

<211> 4

<212> PRT

<213> Artificial Sequence

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<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 67

Ile Gly Lys Arg

1

<210> 68

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Primer

<400> 68

aggaagttca tttcatttgg

20

<210> 69

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Determined
N-terminal sequence

<400> 69

Glu Leu Cys Glu Lys Ala Ser

1

5

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T04T50-920E9260

<211> 7

<213> Artificial Sequence

<223> Description of Artificial Sequence: Determined
N-terminal sequence

Asp Val Glu Pro Gly Gln Lys

5

<211> 7

<213> Artificial Sequence

<223> Description of Artificial Sequence: Determined
N-terminal sequence

Leu Ile Gly Lys Arg Gln Lys

5

<211> 6

<213> Artificial Sequence

<223> Description of Artificial Sequence: Predicted C-terminal sequence

<400> 72

Cys Tyr Phe Asn Cys Ser

1

5

<210> 73

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Predicted
C-terminal sequence

<400> 73

Ile Cys Tyr Phe Pro Cys

1

5

<210> 74

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Predicted
C-terminal sequence

<400> 74

Cys Tyr Phe Asn Pro Ser

1

5

T04T50" 94059460

<210> 75

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Predicted
C-terminal sequence

<400> 75

Cys Tyr Phe Asn Cys Lys

1

5

<210> 76

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Predicted
C-terminal sequence

<400> 76

Cys Tyr Phe Asn Cys Ala

1

5

<210> 77

<211> 12

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

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63

<400> 77

Ile Gly Lys Arg Ile Gly Lys Arg Ile Gly Lys Arg

1

5

10

<210> 78

<211> 6

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 78

Val Ser Gly Glu Leu Cys

1

5

<210> 79

<211> 22

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 79

Phe Asn Cys Ser Asn Ala Ala Asp Glu Val Ala Thr Pro Glu Asp Val

1

5

10

15

Glu Pro Gly Gln Lys Leu

20

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<210> 80

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 80

Phe Asn Cys Lys Lys Ala Glu Lys Leu Ala Gln Asp Lys Leu Lys Ala
1 5 10 15

Glu Gln Leu Ile Gly Lys Arg Gln Lys Leu
20 25

<210> 81

<211> 26

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
sequence

<400> 81

Phe Asn Cys Ala Ser Thr Thr Val Asp His Gln Ala Asp Val Ala Ala
1 5 10 15

Thr Lys Thr Ile Gly Lys Arg Gln Lys Leu
20 25

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